AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A routing processing device which identifies one or a plurality of types of packet formats, and performs routing processing for each packet type, comprising:

a packet information extraction portion, which extracts from a received packet for identification a prescribed range of fields including at least one identifying information item which identifies the received packet type as tagged IPv4 packet, untagged IPv4 packet, tagged IPv6 packet or untagged IPv6 packet;

a packet judgment portion, which judges the whether the received packet is a tagged packet or an untagged packet type based on an identified first information item in a first pre-specified position in the extracted range of fields, including a value of tag or not, and

(a)   if the received packet is the tagged packet, identifying a second information item in a second pre-specified position in the extracted range of fields, and

(a-1)   if the second information item includes a length identifier, identifying a third information item in a third pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 packet or not, based on the third information item,

(a-2)   if the second information item lacks a length identifier, identifying the second information item, determining a type of the received packet based on the second information item as tagged IPv6 packet or tagged IPv4 packet,

(b)   if the received packet is the untagged packet,

(b-1)   if the first information item includes a length identifier, identifying a fourth information item in a fourth pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 packet, untagged IPv6 packet or a packet other than these, based on the fourth information item,

(b-2)   if the first information item lacks a length identifier, identifying the first information item, determining a type of the received packet based on the second information item as untagged IPv6 packet or tagged IPv4 packet;

whether the identifying information item in a first prescribed position among said extracted fields includes one of a type or a length identifier;

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a header imparting portion, which creates header information according to the <u>received</u> packet type based on the judgment result of said packet judgment portion and imparts the header information to the packet;

a packet sorting portion which sorts packets based on said header information imparted to the packets; and,

a routing processing portion which performs routing processing of packets sorted by said packet sorting portion, according to the <u>received</u> packet type.

2. (Previously Presented) The routing processing device according to Claim 1, further comprising:

a settings table which associates packet types with said routing processing portion, and wherein said header imparting portion creates the packet header information designating said routing processing portion further based on the settings table.

3. (Original) The routing processing device according to Claim 1, wherein said header imparting portion imparts header information containing discarding instruction information to the packet when the packet is not to be subjected to routing processing, and said packet sorting portion discards the packet based on said discarding instruction information.

4. (Previously Presented) The routing processing device according to Claim 1, wherein the prescribed position in said extracted fields is variable.

5. (Currently Amended) A packet type identification device, which identifies one or a plurality of types of packet formats, comprising:

a packet information extraction portion, which extracts from a <u>received</u> packet for identification a prescribed range of fields including at least one identifying information item which identifies the <u>received</u> packet type <u>as tagged IPv4 packet, untagged IPv4 packet, tagged IPv6 packet or untagged IPv6 packet</u>; and

a packet judgment portion, which judges <s>the </s><u>whether the received packet is a tagged packet or an untagged packet</u> <s>type </s><u>based on</u> <u>an identified first information item in a first pre-specified position in the extracted range of fields, including a value of tag or not, and,</u>

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(a)   if the received packet is the tagged packet, identifying a second information item in a second pre-specified position in the extracted range of fields, and

(a-1)   if the second information item includes a length identifier, identifying a third information item in a third pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 or not, based on the third information item,

(a-2)   if the second information item lacks a length identifier, identifying the second information item, determining a type of the received packet based on the second information item as tagged IPv6 packet or tagged IPv4 packet,

(b)   if the received packet is the untagged packet,

(b-1)   if the first information item includes a length identifier, identifying a fourth information item in a fourth pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 packet, untagged IPv6 packet or a packet other than these, based on the fourth information item,

(b-2)   if the first information item lacks a length identifier, identifying the first information item, determining a type of the received packet based on the second information item as untagged IPv6 packet or tagged IPv4 packet.

~~whether the identifying information item in a first prescribed position among said extracted fields includes one of a type or a length identifier.~~

6. (Previously Presented) The device according to Claim 1, wherein:

if the identifying information item in the first prescribed position lacks the type identifier, the packet judgment portion judges the packet type based on whether the identifying information item in a second prescribed position among the extracted fields includes one of the type or length identifier.

7. (Previously Presented) The device according to Claim 5, wherein:

if the identifying information item in the first prescribed position lacks the type identifier, the packet judgment portion judges the packet type based on whether the identifying information

item in a second prescribed position among the extracted fields includes one of the type or length identifier.

8. (Currently Amended) A method, comprising:

receiving a packet;

extracting a pre-specified range of fields from the received packet;

identifying a first information item in a first pre-specified position in the extracted range of fields;

based on the identified first information item including a value of tag or not, ~~one of:~~

determining whether the received packet is a tagged packet or an untagged packet, and

(a)   if the received packet is the tagged packet, identifying a second information item in a second pre-specified position in the extracted range of fields, and

(a-1)   if the second information item includes a length identifier, identifying a third information item in a third pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 packet or not, based on the third information item,

(a-2)   if the second information item lacks a length identifier, identifying the second information item, determining a type of the received packet based on the second information item as tagged IPv6 packet or tagged IPv4 packet,

(b)   if the received packet is the untagged packet,

(b-1)   if the first information item includes a length identifier, identifying a fourth information item in a fourth pre-specified position in the extracted range of fields, determining a type of the received packet as tagged IPv4 packet, untagged IPv6 packet or a packet other than these, based on the fourth information item,

(b-2)   if the first information item lacks a length identifier, identifying the first information item, determining a type of the received packet based on the second information item as untagged IPv6 packet or tagged IPv4 packet;

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~~a type of the received packet based on the first information item if the first information item includes a type identifier, or~~

~~identifying a second information item in a second pre-specified position in the extracted range of fields if the first information item lacks a type identifier, and~~

~~one of (a) determining a type of the received packet based on the second information item if the first information item includes a length identifier or the second information item includes the type identifier, or (b) determining a type of a packet based on a third information item in a third pre-specified position in the extracted range of fields if the second information item includes a length identifier;~~

creating header information based on the determined packet type; and

routing the packets based on the packet type.